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ABSTRACT

Literature pertinent to the evaluation of faculty development programs is reviewed and data are presented from several studies conducted at Kansas State University and Wichita State University. These data were consistent with those previously reported in that faculty participants consistently expressed satisfaction with development services. In addition, one study found that most faculty members voluntarily took some action to improve their instructional effectiveness, though only a minority pursued these efforts in depth. Volunteers who worked intensively with a faculty development consultant improved more on objective measures of effectiveness than did those who were only superficially involved in improvement efforts; those who received no consultative assistance failed to improve significantly. Evidence from a final study provided a control for faculty motivation and led to the conclusion that improvement was contingent both on faculty desire to improve and on the availability of professional assistance. (Author/LBH)

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KANSAS STATE UNIVERSITY
MANHATTAN, KANSAS

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Kansas State University

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THE EVALUATION OF FACULTY DEVELOPMENT PROGRAMS

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and
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May 1977

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This paper reviews literature pertinent to the evaluation of faculty development programs and presents data from several studies conducted at two institutions. These data were consistent with those previously reported in that faculty participants consistently expressed satisfaction with development services. In addition, one study found that most faculty members voluntarily took some action to improve their instructional effectiveness, though only a minority pursued these efforts in depth. Volunteers who worked intensively with a faculty development consultant improved more on objective measures of effectiveness than did those who were only superficially involved in improvement efforts; those who received no consultative assistance failed to improve significantly. Evidence from a final study provided a control for faculty motivation and led to the conclusion that improvement was contingent both on faculty desire to improve and on the availability of professional assistance.

THE EVALUATION OF FACULTY DEVELOPMENT PROGRAMS

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A glance at the advertised positions in any issue of the Chronicle of Higher Education confirms the suspicion that a large number of institutions are in the process of establishing faculty development services. Recent academic literature also attests to the considerable activity in this area (e. g., Gaff, 1975; Centra, 1976; Crow et. al., 1976). Whether "faculty development" becomes just another fad which fades from the scene when its lustre wears off or a relatively permanent feature of higher education may well depend ultimately on whether or not its value can be demonstrated. Does it work? Are its benefits worth its costs?

These questions cannot be answered with existing data. But they are sufficiently critical that even tentative answers based on incomplete information from inadequate sources are worthy of attention. Hence, this paper will provide a brief review of the limited literature on the topic and some data from programs at two universities.

There are basically three types of data which are relevant to the evaluation question. The first describes how participants feel about their experiences -- their satisfaction, sense of well-being, willingness to recommend the experience to others, etc. This is the least useful type of evaluative data, largely because social pressures to be polite or say the right thing (Hathaway, 1948) may result in inaccurate interpretations. Second, evaluative data may describe relevant behavioral changes in the participant. Examples include increased tendencies to read about teaching, to discuss teaching with colleagues, to seek assistance with an instructional problem, or to try a new approach. While these criteria are relatively objective and appear to possess face validity, there is no convincing evidence that such behaviors actually improve teaching effectiveness; they are, however, indicative of effort, which may be considered a pre-requisite. The final type of evaluative data consists of direct evidence of improvement in effectiveness. The most convincing way of demonstrating this is through the performance of students. Less direct evidence includes measured changes in particular aspects of teaching such as "Clarity of Communication", "Stimulation", or "Quality of Examinations".

Literature Review

The recency of the faculty development movement and the "service" orientation of its programs probably account for the paucity of formal reports in the literature. McMillan (1975) surveyed 35 faculty development agencies in public and private institutions. Sixteen of these reported some type of evaluation had been attempted, of which 12 consisted solely of faculty reactions. Four reported using measures of

student change, but no data were reported either to McMillan or in independent publications.

Gaff (1975) surveyed 54 directors of faculty development programs, of which 30 reported that their programs were evaluated systematically. However, the evaluation efforts were all superficial and of doubtful validity. Generally they consisted of a description of projects or activities or a count of the number of participants. At Harvard, for example, the Bureau of Study Counsel conducts workshops primarily for teaching assistants. The only evaluation of these appeared in a letter to the President which reported an overwhelmingly favorable response from the participants (Moribomoto, 1972).

Centra's survey of 756 institutions revealed that 14 percent had attempted an evaluation of their faculty development program. However, these were also superficial appraisals, leading Centra to conclude that "... more sophisticated designs are probably needed to deal with such issues as accountability and the actual effects of various activities". (Centra, 1976, p. 42).

A preliminary evaluation of the Massachusetts program was conducted by Koffman (1974). Thirteen teaching assistants participated; five received all program services, four received only an initial review and interpretation, and four received no assistance. In post-assessment, video-tapes showed that the control subjects did less talking in class than did the two experimental groups. The group receiving full assistance received better student ratings in "clarity" and "evaluation/feedback" than did the other groups. They also demonstrated more understanding of the teaching process through their responses to a special essay examination.

A number of studies have used changes in student ratings as a criterion. Trent and Cohen (1973) reviewed this literature, concluding that feedback from students generally is accompanied by modest improvement in subsequent ratings. Miller's (1971) more carefully controlled study found no such effect. Centra (1972) examined the effect of mid-term feedback on end-of-term ratings in five colleges. In general, there were no differences between those receiving feedback and those who didn't. However, for the subgroup whose self-ratings were noticeably higher than student ratings, feedback was associated with positive change.

In summary, the literature is extremely sparse and the studies reported are uncommonly simplistic. Apparently, participants in faculty development programs have generally expressed satisfaction with them, a finding of doubtful meaning. There is some evidence that teaching methods may change in directions considered desirable by teaching authorities. No dependable evidence regarding impact on students was reported.

The Kansas State Studies

Kansas State's program utilizes student feedback as a mechanism for improving instructional effectiveness (Hoyt, 1973). Faculty participants are asked to indicate the relevance of each of 10 general educational goals to the course they are teaching. Their effectiveness is judged by the amount of progress students report on objectives chosen by the teacher. For important objectives on which student progress ratings were low, the computerized report identifies particular weaknesses in instructional techniques. Faculty members are invited to discuss these with a faculty development specialist who attempts to help them find alternate approaches which will not interfere with current strengths.

The main thrust of Kansas State's Office of Educational Improvement and Innovation has been to help faculty members improve their teaching skills; its specialists also provide consultation on such "instructional development" matters as developing a Keller-plan approach, devising audio or visual supplements, or appraising student progress.

To evaluate the effectiveness of this office, the following types of data were collected:

1. A faculty survey concerning outcomes of contacts with the Office, 1975. (N=381)

2. A survey of 85 Graduate Teaching Assistants (GTA) participants in a 1974 Orientation Workshop.

3. Comparison of student ratings of the same instructor and course on two occasions between 1969 and 1972. (N=263)

4. Comparisons of student ratings of the same instructor and course on two occasions between 1973 and 1975. (N=348)

Table 1 provides data regarding faculty satisfaction.

Insert Table 1 about here

Clearly, respondents expressed satisfaction with nearly every aspect of the services provided. As noted earlier, such responses are not convincing, since respondents may simply be reacting to social pressure to be "pleasant".

They did, however, distinguish among the services. For example, the newsletter was regarded as more "interesting" than "personally valuable"; and GTAs found the orientation workshop more helpful in dealing with administrative detail than in working with students or faculty members.

Results like those shown in Table 1 do not provide a firm justification for the services. However, negative findings could legitimately bolster reservations about them.

Table 2 contains data that responds to the question, "What did you do differently as a result of these services?". As noted earlier, such data do not lead directly to dependable evaluative conclusions; however,

Insert Table 2 about here

they are relatively clear cut measures of effort which theoretically should produce desirable outcomes.

One of the most useful features of these data is the perspective they provide about the pervasiveness of faculty interest in development services. While substantial numbers became involved on a superficial level (read newsletters; engaged in relevant discussions), only a small percent made serious efforts to improve. Thus, while 54 percent tried a new approach to teaching, only 15 percent sought help from the office.

From the data, it is impossible to know whether the rather modest percent who took active development steps would have been increased if the office had been more fully staffed. Regardless of this, it is not necessary for developmental services to serve large numbers of faculty members in order for them to be justified on purely cost-benefit bases.

The payoff question in faculty development evaluation is, "Is there evidence of improved effectiveness?". The amount of data relevant to this question is still relatively modest, but in a new area, even modest findings merit attention.

In an initial study, two sets of student ratings of instructional effectiveness from a total of 263 faculty members were employed. Each faculty member had received evaluations for the same course on at least two different occasions between 1969 and 1972. A total of 15 measures of teaching effectiveness were available. Means on the first evaluation were compared with those on the last evaluation. Results are shown in Table 3.

Insert Table 3 about here

As can be seen from Table 3, significant improvement was shown on 13 of the 15 measures used to analyze the data. Students who took the course during the more recent semester reported more progress on the instructor's objectives than those who had taken the same course in an earlier semester. They also reported improved teaching methods on the

part of the same instructor and generally gave the course a more favorable rating.

These gains, while statistically significant, were not dramatic in the absolute sense. On most measures, the average participant improved about one-fifth of a standard deviation. Nonetheless, the results were consistent with the expectation that voluntary participation in a "student evaluation" program coupled with feedback from that program can help faculty members improve instructional effectiveness.

The test-retest study was recently replicated using data from a revised form of the instrument. Again, only those who had the same class rated during two different semesters were included. The time span was from 1973 through 1975; 348 faculty members were involved. Comparisons were made between results during the most recent semester and those obtained during the "first" assessment. A principal finding was that the post-test mean for "Progress on Relevant Objectives" was significantly higher than the pre-test mean ($P < .01$). The same was not true for progress ratings on individual objectives, but this was not considered crucial since most faculty members rated at least some of these "irrelevant" to the course they were teaching.

A more critical test was made of the effectiveness of the Office of Educational Improvement and Innovation. The Director of that office reviewed the names of the 348 faculty members in the replication and, without knowledge of student ratings, placed each in one of three groups: those with whom he had "much contact" (typically, several interviews; perhaps enrollment in one of his courses on college teaching); "some contact" (typically, a group interpretation session; a single interview); and "no contact". To "equate" these groups on initial status, the first ("pre-") student ratings served as co-variates for the corresponding "final" measures. An analysis of covariance was used to adjust final averages for initial status. Results are shown in Table 4.

Insert Table 4 about here

Clearly, adjusted measures of effectiveness increased as a function of the amount of contact with the director. While these findings don't "prove" his effectiveness, they do demonstrate that signficant improvement resulted when consultative services were made available to motivated faculty members.

One might argue that the key variable was faculty motivation, not developmental services. That is, motivated teachers might have shown the same amount of improvement in the absence of consultative services. Data gathered at Wichita State address this possibility.

The Wichita State Study

At Wichita State, Howard (in press) developed a modest faculty development program built on a "teachers helping teachers" model. Instructors from various departments were assigned to groups of eight teachers and engaged them in a variety of developmental activities during group sessions and in dyads. The groups ran from eight to ten weeks and included presentations on instructional issues, observation and feedback on the classroom performance of group members, videotape recording, and discussion of various teaching methods.

Two instructional development groups were conducted during the Fall, 1974, semester. At the final group meeting a questionnaire was completed by all group members to ascertain their reactions to the program. The responses to the following two questions are indicative of all reactions.

"1. How valuable was this program?

1 = not at all 2 3 4 5 = extremely"

Responses ranged from "three" to "five" with "five" being the most frequently chosen alternative. The average response was 4.5.

"2. In the final analysis, programs of this sort will compete with other faculty development programs (e.g., faculty travel funds, visiting lecturers, etc.) for funds. Relative to these other programs, the Program to Improve Instruction is ____ important.

1 = much less 2 3 4 5 = much more"

This item sought participants' evaluations of this program's importance relative to other faculty development alternatives. Responses ranged from "three" (equally important) to "five" (much more important) with a mean of 4.3. The most common response given was "five". Participant reactions to the invitation for "Other Comments" were also enthusiastic.

A total of 68 teachers indicated a desire to participate in the program; since only 16 could be accommodated, these were randomly chosen. From the remainder, 16 were selected at random to serve as a control group; all agreed to participate. Each of the 32 teachers selected a course which they were teaching and administered a 13-item "student evaluation of instruction questionnaire" during the seventh week of the semester ("Mid" evaluation) and again at the end of the semester ("Final" evaluation). A total score was obtained by summing results from the first 12 items (those which tapped specific teaching skills). One control group teacher failed to follow procedures and her data were eliminated. Difference scores (Final minus Mid-Term) favored the program participants on 12 of the 13 items and on the Total score. The one exception was "Made it easy to take lecture notes". This was not surprising since several program participants consciously sought to get

away from the traditional lecture as the sole mode of instruction.

To "equate" the groups on initial status, the "Mid" rating served as a co-variate for the corresponding "Final" rating. An analysis of covariance was used to analyze the differences between the two groups. Results are shown in Table 5.

Insert Table 5 about here

When initial status was controlled, final measures of effectiveness were significantly higher for the experimental group on 5 of the 14 measures, including the Total score. Given the lack of control over other factors which might influence teaching performance, the short period of the intervention (eight weeks), and the relatively small number of teachers involved, these results offer strong support for the program as an effective faculty development procedure.

While these data were consistent with those from Kansas State, it is important to recognize that in this instance "motivation" was controlled. The clear inference is that motivated teachers who participate in developmental activities improve more than motivated teachers who are unable to avail themselves of this help.

One final indirect index of the value of the groups might be noted. At the time of the initial faculty poll (Fall, 1974) 142 teachers expressed an interest (68 were definitely interested while 74 wanted more information). The same survey conducted in Fall, 1975 revealed that 154 teachers wished to become involved with the program (71 "definitely interested" and 83 requesting more information). This increase is salient when one considers that the 30 participants in the 1974-1975 program were included in the initial figures but excluded from those for 1975. The increased interest suggests that "the faculty grapevine" provided a positive image of the program.

Conclusions

It is premature to form definite conclusions. Sound criteria for evaluating the best established programs are just now being developed. The newer programs have not evolved that far. The interest in establishing faculty development services is outstripping our knowledge of what services can be effectively provided. As a result, there is a danger that programs may suffer the fate of other educational fads which are born, mature, and die without a fair trial or serious study. There is thus some urgency in the matter of evaluating these programs.

On the basis of limited data and experience, several tentative conclusions are possible. Hopefully, these will help establish realistic expectations for faculty development programs and provide a framework for future evaluation efforts.

1. It is probable that only a minority of faculty members will respond to available services at any given time. There is some evidence that those who do respond are, on the average, already more successful in that activity than the nonvolunteers. Thus, as with many social services, those who "need" it most may be least likely to seek help.

Nonetheless, these studies as well as those done elsewhere make it clear that faculty participants cover nearly the entire range of competence. Furthermore, a program need not affect a large proportion of faculty members to produce significant improvements in the overall quality of the instructional program.

2. In general, changes which occurred in teaching behaviors were relatively modest; few dull lecturers became stimulating speakers nor did flat personalities become sparkling conversationalists. It would be a mistake to promise dramatic improvements.

On the other hand, the data strongly suggest that motivated faculty members can make alterations in their teaching styles which do increase their impact on students. Further, the evidence suggests that motivation alone is not enough.

3. Faculty development programs appear to pose some threat to many faculty members, perhaps by implying that assistance is needed to bring about acceptable levels of competence. Therefore, it seems wise to offer a variety of services which vary in terms of their demands for personal involvement.

When this has been done, the evidence suggests that an increasing number of faculty will voluntarily seek services. After 6 years, about 75 percent of the Kansas State faculty voluntarily sought some type of service from the instructional development office, compared to about 20 percent during its first year of operation. Nonetheless, it seems doubtful that some faculty members will ever request assistance. Faculty development offices will probably have greater success by serving those who seek help than by imposing services on those who "need" help.

4. There is an urgent need to evaluate faculty development efforts which are aimed at improving the match between the faculty member's activities, on the one hand, and skills and preferences on the other. Strategies which attempt to capitalize on faculty strengths, rather than altering their basic characteristics, have an inherent appeal. While a fetish for organization may make for a tiresome lecture, it may also produce a brilliantly designed modular course. An interpersonal weakness may detract from small group effectiveness but add to large group presentations.

It seems prudent to bear in mind that, from society's point of view, the problem is to increase the effectiveness with which we accomplish our missions. If this can be done more surely by altering the faculty member's activities than by altering his/her style or personality,

the gain is just as real.

In any event, this is a propitious moment to consider the evaluation of faculty development programs. A fair start has been made; results to date are encouraging. It is important to continue and expand these efforts so that the future of faculty development programs may be guided by rationality and sound information rather than by emotion or political considerations.

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TABLE 1

USER SATISFACTION WITH FACULTY DEVELOPMENT SERVICES

SERVICE	PERCENT OF RATINGS ABOVE "MODERATE"
NEWSLETTER ON TEACHING (N=381 Faculty Members)	
Personal Interest	70
Information	67
Personal Value	61
TEACHING: OTHER SERVICES (N=381 Faculty Members)	
Interpretation of Student Evaluations	75
Personal Consultation	87
Referrals to sources of aid	85
TEACHING: GTA WORKSHOP (N=85 GTA's)	
Recommend to a friend	(91% "Yes")
Helped work with faculty	(56% "Yes")
Helped work with students	(55% "Yes")
Helped with administrative detail	(71% "Yes")

TABLE 2

TEACHING IMPROVEMENT EFFORTS STIMULATED BY FACULTY DEVELOPMENT

SURVEY OF 381 KSU FACULTY MEMBERS, 1975	
Percent trying new approach to teaching	53.6
Percent discussing teaching with colleague	64.3
Percent seeking help from someone	47.2
Percent obtaining interpretation of stu eval	31.1
Percent seeking personal help from office	14.8
Percent using referral services of office	11.7
Percent reading Newsletter "usually"	61.6
SURVEY OF 85 GTA'S, 1975	
GTA's, % using special facilities, aids	24.0
GTA's, % contacting workshop personnel for help	16.0
GTA's, % requesting student feedback	41.0

TABLE 3

COMPARISON OF FIRST AND LAST STUDENT RATING FOR 263 INSTRUCTORS TEACHING THE SAME COURSE ON TWO OR MORE OCCASIONS

VARIABLE	FIRST RATING MEAN	FIRST RATING s.d.	LAST RATING MEAN	LAST RATING s.d.	t
Preparation & Organization	85.46	13.07	87.53	11.92	3.448**
Student Involvement	78.20	15.09	79.74	15.28	2.123*
Clarity of Communication	78.30	15.17	80.62	13.31	3.370**
Stimulation	82.16	12.62	84.47	11.13	4.028**
Speaking Style	86.21	11.41	87.51	10.54	2.469*
Personalism-Consideration	83.25	10.14	84.60	9.92	2.817**
Total Methods	82.33	10.51	84.12	9.69	3.693**
Progress, Relevant Goals	3.57	.524	3.65	.495	3.075**
Examinations	74.59	19.54	76.40	16.99	2.047*
Assignments	89.45	6.32	89.77	7.10	0.989
Textbook	86.66	10.21	87.64	9.59	2.067*
Content	85.44	8.61	86.58	8.45	2.797**
Professional Interest, Course	4.17	.492	4.26	.454	3.878**
Personal Interest, Course	3.20	.667	3.28	.599	2.395*
Instructor	2.45	.386	2.49	.373	1.764

*<.05
**<.01

TABLE 4

Adjusted Means* for Teaching Effectiveness Ratings Among Groups with Different Amounts of Contact with the Office of Educational Improvement

Measures	GROUP: No Contact (N=216)	Some Contact (N=91)	Much Contact (N=41)	F	P
A. STUDENT PROGRESS					
Factual Knowledge	3.75	3.87	3.93	4.650	<.01
Principles, Theories	3.69	3.84	3.88	7.457	<.001
Prof. Skills, Viewpts.	3.72	3.82	3.92	5.396	<.01
Disc's Methods	3.52	3.68	3.78	9.710	<.001
Creative Capac.	3.18	3.32	3.43	7.763	<.001
Effect. Commun.	2.94	3.09	3.05	3.912	<.05
Prob. Solv. Appl.	3.64	3.78	3.90	7.597	<.001
Self-Undstdg.	3.24	3.44	3.52	10.517	<.001
Psnl. Respons.	3.43	3.55	3.65	6.223	<.01
Gen-Lib Educ.	2.79	2.96	3.06	7.367	<.001
Progress, Relevant Goals	3.64	3.81	3.92	13.519	<.001
B. OTHER RATINGS					
Amt. of Reading	2.90	2.89	2.87	.070	NS
Amt. of Other Work	3.21	3.22	3.21	.010	NS
Course Difficulty	3.28	3.33	3.23	.937	NS
Integration of Course	3.76	3.88	3.89	3.714	<.05
Desire to Take Course	3.51	3.62	3.66	2.688	NS
Liked Instructor	3.81	4.03	4.07	7.205	<.001
Incr. Pos. Att. Twd. Field	3.88	4.06	4.09	5.713	<.01

* Final Scores adjusted for Initial status; r's between final and initial varied from .51 to .79.

TABLE 5

Average Mid-Term and Final Student Ratings for Experimental and Control Groups

RATING	GROUP	MID	FINAL	F
Exhibited interest and enthusiasm as a teacher	E	4.32	4.30	1.700
	C	4.35	4.31	
Showed interest in students	E	4.13	4.09	2.782
	C	4.15	3.98	
Was aware if students understood the subject matter	E	3.59	3.68	8.268*
	C	3.53	3.41	
Graded fairly	E	3.75	3.93	2.592
	C	3.95	3.91	
Explained clearly what he wanted in the way of assignments and papers	E	3.79	3.82	1.765
	C	3.69	3.65	
Aroused my intellectual curiosity	E	3.75	3.93	2.823
	C	3.92	3.92	
Was available to students outside of class	E	3.91	4.11	2.596
	C	3.99	3.97	
Encouraged class discussion	E	4.04	4.09	25.516*
	C	4.14	3.93	
Seemed well-prepared and well-informed for class meetings	E	4.11	4.12	1.262
	C	4.32	4.23	
Made it easy to take lecture notes	E	3.67	3.61	.015
	C	3.53	3.53	
Discussed opinions and ideas other than his own	E	3.85	3.93	8.894*
	C	4.00	3.81	
Responded good-naturedly to corrections and questions by students	E	4.22	4.14	1.049
	C	4.21	4.05	
Overall rating as a teacher	E	4.20	4.24	8.987*
	C	4.23	4.17	
Total Score	E	47.13	47.75	9.311*
	C	47.78	46.70	

Group E - Participants in Program to Improve Instruction (N=16)
Group C - No treatment control subjects (N=15)
*p <.01